

Remarks

The Office Action mailed July 25, 2002 has been carefully reviewed and the foregoing amendment has been made in consequence thereof. A submission of marked up paragraphs and Claims is submitted herewith.

Claims 5, 6, 8-12, and 14-16 are pending in this application. Claims 5-16 stand rejected. Claims 1-4, 7, 12, and 13 have been cancelled.

The rejection of Claims 8 and 14 under 35 U.S.C. § 112 is respectfully traversed.

With respect to Claims 8 and 14, Applicants respectfully one skilled in the art, after reading the Claims, in light of the Figures and specification, would understand how the annular flange could be machined to remove material to facilitate achieving a desired level of rotor balance. More specifically, Applicants respectfully submit that an artisan of ordinary skill in the art would understand how removing material from the annular flange could impact the rotor balance. Accordingly, for at least the reasons set forth above, Applicants respectfully request the rejections of Claims 8 and 14 under Section 112 be withdrawn.

The rejection of Claims 5-10 under 35 U.S.C. § 103 as being unpatentable over Hollenbeck et al. (U.S. Patent No. 5,986,379) in view of common knowledge in the art is respectfully traversed.

Hollenbeck et al. ("Hollenbeck") describe a motor having an external rotor (30) with a split C arrangement of ferromagnetic members (44, 46) which function as the poles of the electromagnet in the motor. Ferromagnetic members (44, 46) are generally C-shaped and mounted on opposite end caps (40, 42) of the motor. Ferromagnetic members (44, 46) on opposing end caps (40, 42) are angularly offset from each other. Ferromagnetic members (44, 46) on each end cap (40, 42) are also spaced apart from each other, and receive a portion of motor windings (50) within them. The motor is constructed for assembly using few or no separate fastening devices to secure the components together. The rotor shaft (234), having been previously mounted on the rotor bell (232), is inserted through the bearing system (249). A mylar disk (292) is placed around the shaft (234) prior to insertion through the bearing system (249) to provide a low friction surface between the rotor bell (232) and the core cap (265) nearest the bell. An annular lip extends circumferentially around rotor bell (232) and is radially outward from stator laminations positioned within the rotor bell. Notably,

Hollenbeck does not describe nor suggest an annular flange that extends circumferentially from a sidewall for strengthening the sidewall. Additionally, Hollenbeck does not describe nor suggest an annular flange that is configured to receive a plurality of weights to facilitate a desired level of rotor balance.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, the mere assertion that it would have been obvious to one of ordinary skill in the art to have modified Hollenbeck to obtain the claimed recitations of the present invention does not support a prima facie obvious rejection. Rather, each allegation of what would have been an obvious matter of design choice must always be supported by citation to some reference work recognized as standard in the pertinent art and the Applicants given the opportunity to challenge the correctness of the assertion or the notoriety or repute of the cited reference. Applicants have not been provided with the citation to any reference supporting the combination made in the rejection. The rejection, therefore, fails to provide the Applicants with a fair opportunity to respond to the rejection, and fails to provide the Applicants with the opportunity to challenge the correctness of the rejection.

Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to have modify Hollenbeck in view of common knowledge in the art because the Examiner has not pointed to any prior art that teaches or suggests to modify Hollenbeck to obtain the claimed invention, other than Applicants' own teaching. Only the conclusory statement that "[t]hat is, in an apparatus claim, if a prior art structure discloses all of the structural elements in the claim, as well as their relative juxtaposition, then it reads on the claim, regardless of whether or not the function for which the prior art structure was intended is the same as that of the claimed invention" suggests modifying Hollenbeck. Applicants respectfully submit however, that the prior art teaches away from the present invention, because Hollenbeck does not describe nor suggest an annular flange for strengthening a sidewall, or a rotor cap housing that includes an opening for receiving a rotor shaft therethrough. Accordingly, Applicants respectfully submit that there is no suggestion or motivation to modify Hollenbeck to obtain the claimed invention.

Claim 5 recites a rotor cup assembly for an electric motor, wherein the rotor cup assembly comprises “a housing comprising a top, a bottom, a sidewall extending circumferentially from said top...said top comprising an opening configured to receive a rotor shaft therethrough...an annular flange extending circumferentially from said sidewall for strengthening said sidewall...said annular flange configured to receive a plurality of weights to facilitate a desired level of rotor balance.”

Hollenbeck does not describe nor suggest a rotor cup assembly for an electric motor, wherein the rotor cup assembly includes a housing including a top, a bottom, a sidewall extending circumferentially from said top, wherein the top includes an opening configured to receive a rotor shaft therethrough, in combination with an annular flange extending circumferentially from the sidewall for strengthening the sidewall, wherein the annular flange is configured to receive a plurality of weights to facilitate a desired level of rotor balance. Specifically, Hollenbeck does not describe nor suggest a rotor cup assembly including a top opening that is configured to receive a shaft therethrough. Furthermore, Hollenbeck does not describe nor suggest an annular flange that extends circumferentially from a rotor cap sidewall for strengthening the sidewall, wherein the annular flange is also configured to receive a plurality of weights to facilitate a desired level of rotor balance. Rather, in contrast to the present invention, Hollenbeck describes a rotor shaft that is seated in a mylar disk that is coupled against the rotor cap assembly top. Furthermore, and in contrast to the present invention, Hollenbeck also appears to illustrate a lip extending from a rotor bell for mating with a second lip that extends from a stator assembly to facilitate positioning the stator assembly with respect to the rotor bell. In addition, Hollenbeck neither describes nor suggests that the annular lip provides any structural support to the rotor bell, or that a plurality of weights could be coupled to the lip to facilitate a desired level of rotor balance. Accordingly, Applicants respectfully submit that Claim 5 is patentable over Hollenbeck.

Claims 6-10 depend, directly or indirectly, from independent Claim 5. When the recitations of Claims 6-10 are considered in combination with the recitations of Claim 5, Applicants submit that dependent Claims 6-10 likewise are patentable over Hollenbeck.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 5-10 be withdrawn.

The rejection of Claims 11-16 under 35 U.S.C. § 103(a) as being unpatentable over Hollenbeck (U.S. Patent No. 5,986,379) in view of Yamaguchi (U.S. Patent No. 6, 051,900) is respectfully traversed.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to modify Hollenbeck using the teachings of Yamaguchi. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Hollenbeck nor Yamaguchi describe or suggest the claimed combination. Rather, the present Section 103 rejection is based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Hollenbeck is cited for teaching an electric motor that includes a rotor cup wherein the rotor cup has a housing that includes a sidewall and an annular flange that extends circumferentially from the sidewall, but Hollenbeck does not describe or suggest a rotor cup assembly for an electric motor that has an annular flange that extends circumferentially from a sidewall for strengthening the sidewall. Yamaguchi is cited for teaching the construction of a flat coreless vibration motor having a rotor shaft that extends through a bracket for the purpose of supporting and physically connecting an eccentric rotor to the bracket, but Yamaguchi does not describe or suggest a rotor cup assembly for an electric motor that has an annular flange that extends circumferentially from a sidewall for strengthening the sidewall. Since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejection of Claims 11-16 be withdrawn.

Also, the teachings or suggestions, as well as the expectation of success, must come from the prior art, not the applicant's disclosure. See In re Vaeck, 947 F.2d 488, 493, 20 U.S.P.Q.2nd 1438, 1442 (Fed. Cir. 1991). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed

invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

Notwithstanding the above, the rejection of Claims 11-16 under 35 U.S.C. § 103(a) as being unpatentable over Hollenbeck in view of Yamaguchi is further traversed on the grounds that Hollenbeck and Yamaguchi, considered alone or in combination, do not describe or suggest the claimed invention. Specifically, Claim 11 recites an electric motor comprising “a stator ...a rotor positioned at least partially around said stator, a rotor shaft positioned at least partially within said rotor... a rotor cup...said rotor shaft extending through said rotor cup...said rotor cup comprising...a housing comprising a top, a bottom, a sidewall, and an annular flange...said top comprising an opening configured to receive said rotor shaft therethrough...said annular flange extending circumferentially from said sidewall for strengthening said sidewall...said annular flange configured to receive a plurality of weights to facilitate a desired level of rotor balance.”

Neither Hollenbeck nor Yamaguchi, considered alone or in combination, describe or suggest an electric motor including a stator, a rotor positioned at least partially around the stator, a rotor shaft positioned at least partially within the rotor, and a rotor cup, wherein the rotor shaft extends through the rotor cup, and wherein the rotor cup includes a housing including a top, a bottom, a sidewall, and an annular flange, wherein the top includes an opening configured to receive the rotor shaft therethrough, and wherein the annular flange extends circumferentially from the sidewall for strengthening the sidewall, and is configured to receive a plurality of weights to facilitate a desired level of rotor balance.

Specifically, neither Hollenbeck nor Yamaguchi, considered alone or in combination, describe or suggest a rotor cup assembly including a top opening that is configured to receive a shaft therethrough. Furthermore, neither Hollenbeck nor Yamaguchi, considered alone or in combination, describe or suggest an annular flange that extends circumferentially from a rotor cap sidewall for strengthening the sidewall, wherein the annular flange is also configured to receive a plurality of weights to facilitate a desired level of rotor balance. Rather, in contrast to the present invention, Hollenbeck describes a rotor shaft that is seated in a mylar disk that is coupled against the rotor cap assembly top, and Yamaguchi describes a flat vibrator motor that includes a shaft that is fixed to the center of a bracket that forms a part


of the housing. Furthermore, and in contrast to the present invention, Hollenbeck also appears to illustrate a lip extending from a rotor bell for mating with a second lip that extends from a stator assembly to facilitate positioning the stator assembly with respect to the rotor bell, but Hollenbeck neither describes nor suggests that the annular lip provides any structural support to the rotor bell, or that a plurality of weights could be coupled to the lip to facilitate a desired level of rotor balance. In addition, Yamaguchi describes a housing that does not include an annular flange. Accordingly, Applicants respectfully submit that Claim 11 is patentable over Hollenbeck in view of Yamaguchi.

Claims 12-16 depend, directly or indirectly, from independent Claim 11. When the recitations of Claims 12-16 are considered in combination with the recitations of Claim 11, Applicants submit that dependent Claims 12-16 likewise are patentable over Hollenbeck in view of Yamaguchi.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 11-16 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Robert B. Retter, III
Registration No. 45,548
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bobay, et al.

Serial No.: 09/681,545

Filed: April 26, 2001

For: ANNULAR FLANGE ON
EXTERNAL ROTOR CUP

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: Art Unit: 2834
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: Examiner: Cuevas, Pedro J.
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SUBMISSION OF MARKED UP PARAGRAPHS AND CLAIMS

Hon. Commissioner for Patents
Washington, D.C. 20231

In response to the Office Action dated July 25, 2002, please amend the above-identified patent application as follows:

IN THE SPECIFICATION

Please replace paragraph [0015] with the following replacement paragraph.

Figure 2 is a perspective view of a rotor cup 22 including an annular flange 24. In one embodiment, flange 24 is unitary with rotor cup 22. Rotor cup 22 further includes a circumferential sidewall 26 having a first diameter 28, a top surface 30, and an open bottom 32. Sidewall 26 has a height 34 measured between top surface 30 and a top edge 36 of annular flange 24. Annular flange 24 is fabricated from the same material as rotor cup 22. In one embodiment, annular flange 24 is fabricated from stamped steel. Annular flange 24 is substantially circular in shape and has an inside diameter [28] 38 and an outside diameter 40. Inside diameter 38 is smaller than outside diameter 40. Annular flange 24 has a height 42 measured between a bottom edge 44 and top edge 36. In addition, annular flange 24 is outwardly flared from sidewall 26 by an angle Φ measured between sidewall 26 and bottom edge 44. Angle Φ permits annular flange 24 to have an outwardly flared curved edge 46 which allows rotor cup 22 to lay flat on a surface (not shown in Figure 2).

Please replace paragraph [0018] with the following replacement paragraph.

Figure 4 is a side view of inside-out motor 50 shown in Figure 3 positioned to be attached to a load 60. In one embodiment, load 60 is a fan. Inside-out motor annular

flange 24 rests on a surface 62 of a tooling apparatus 64 while supporting rotor cup 22. Load 60 is pressed onto rotor cup 22 in a vertical direction 66. Annular flange 24 provides a smooth surface when load 60 is pressed onto rotor cup 22. Annular flange 24 has an increased surface area because of outwardly flared curved edge [37] 46 (shown in Figure 2).

IN THE CLAIMS


Please cancel claims 1-4, 7, 12, and 13.

5. (once amended) A rotor cup assembly for an electric motor, said rotor cup assembly comprising a housing comprising a top, a bottom, a sidewall extending circumferentially from said top and having a first diameter, said top comprising an opening configured to receive a rotor shaft therethrough, said sidewall and said top defining a cavity, and an annular flange extending circumferentially from said sidewall for strengthening said sidewall, said sidewall having a first diameter, a second diameter, and a first thickness, said first diameter less than said second diameter, said annular flange configured to receive a plurality of weights to facilitate a desired level of rotor balance.

11. (once amended) An electric motor comprising a stator including a stator core having a winding thereon, a rotor positioned at least partially around said stator, a rotor shaft positioned at least partially within said rotor, and a rotor cup, said rotor shaft extending through said rotor cup, said rotor cup comprising:

a housing comprising a top, a bottom, a sidewall, and an annular flange, said top comprising an opening configured to receive said rotor shaft therethrough, said sidewall extending circumferentially from said top and having a first diameter, said annular flange extending circumferentially from said sidewall for strengthening said sidewall, said sidewall having a first diameter, a second diameter, and a first thickness, said first diameter less than said second diameter, said annular flange configured to receive a plurality of weights to facilitate a desired level of rotor balance.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Robert B. Reeser, III', written over a horizontal line.

Robert B. Reeser, III
Registration No. 45,548
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070